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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/736,608	12/17/2003	Fuyuki Maehara	118133	4062
25944	7590	05/03/2006	EXAMINER	
OLIFF & BERRIDGE, PLC P.O. BOX 19928 ALEXANDRIA, VA 22320			KAPLAN, HAL IRA	
			ART UNIT	PAPER NUMBER
			2836	

DATE MAILED: 05/03/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/736,608

Applicant(s)

MAEHARA, FUYUKI

Examiner

Hal I. Kaplan

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 December 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3 and 4 is/are rejected.
- 7) ☒ Claim(s) 2 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 December 2003 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date <u>12/17/03</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Priority

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

Specification

2. The disclosure is objected to because of the following informalities: Page 6, line 27 contains the word "smooth". It appears this should be "smooths". Page 8, line 23 contains the phrase "operational amplifier 120". It appears this should be "operational amplifier 121". Page 10, line 6 contains the phrase "terminal Z". It appears this should be "terminal X". Page 10, line 13 contains the phrase "controlled to". It appears this should be "controlled by". Page 10, line 26 contains the word "aPWM". It appears this should be "a PWM". Page 11, line 9 contains the phrase "control duty". It appears this should be "control duty ratio". Page 12, line 1 contains the phrase "Fduty ratio". It appears this should be "duty ratio". Page 12, line 3 contains the word "thePWM". It appears this should be "the PWM". Page 12, line 9 contains the word "calculate". It appears this should be "calculates". Page 12, line 24 contains the word "cycle". It appears this should be "cycles". Page 13, lines 4 and 5 contain the phrase "Fduty ratio". It appears this should be "duty ratio".

Appropriate correction is required.

Drawings

3. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the details of the

calculating means (field current control circuit) (130) must be shown, as is done for the voltage regulating circuit (110) and the field current detecting circuit (120), or the feature(s) canceled from the claim(s). No new matter should be entered.

Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Objections

4. Claims 1 and 4 are objected to because of the following informalities: Claim 1, line 11 contains the phrase "a fixed". It appears this should be "fixed". Claim 4, line 11 contains the word "thePWM". It appears this should be "the PWM". Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 3, and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by the US patent of Maehara et al. (6,043,632).

As to claim 1, Maehara, drawn to a generating system including generator having permanent magnet, discloses (see Figure 3) a generator control system of a generator which includes a field coil, the control system comprising: a switching element (15) which turns on or off to control field current supplied to the field coil (7) (see column 5, lines 32-33); field current detecting means (16) for detecting an amount of the field current flowing through the switching element (15) (see column 5, lines 33-34 and 60); calculating means for calculating an average value of the field current (IF) supplied to the field coil (7) when the switching element (15) turns on according to the amount of the field current (see column 13, line 12); and switch controlling means (17-22) for controlling the switching element (15) at fixed intervals according to the average value of the field current (IF) and a limit value (IF'max) of the field current (see column 5, line 57 through column 6, line 7 and column 13, lines 10-40).

As to claim 3, the switch controlling means (17-22) of Maehara determines a duty ratio of the subsequent operation of the switch element (15) according to the average

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value of the field current (IF), the limit value of the field current (IF'max) and a duty ratio of the last operation of the switch element (D) (see column 13, lines 10-40).

As to claim 4, the switch control means (17-22) of Maehara provide a PWM signal for cyclically controlling the switching element (15) according to the amount of field current detected by the current detecting means (16) and a limited amount of the field current (IF'max), wherein a minimum duty ratio of the PWM signal (25%) is larger than 0 (see column 12, lines 60-66 and column 13, lines 10-40).

Allowable Subject Matter

7. Claim 2 is objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

8. The following is a statement of reasons for the indication of allowable subject matter: Claim 2 contains allowable subject matter because none of the prior art of record discloses calculating the average value according to an amount of field current detected right after the switching element switches from on to off and an amount of field current detected right before the switching element switches from on to off, in combination with the remaining claimed features.

Conclusion

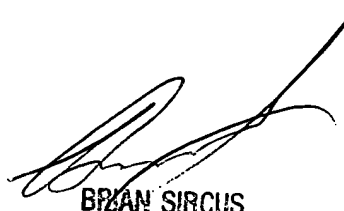
9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. US patents to Iwatani et al. (4,739,243) and Ball et al. (Re. 36,454) disclose similar devices.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Hal I. Kaplan whose telephone number is 571-272-8587. The examiner can normally be reached on M-F 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Brian Sircus can be reached on 571-272-2800 x36. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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